

CLAIMS

1. Hot-dip Sn-Zn coated steel sheet superior in corrosion resistance and workability characterized by comprising hot-dip Sn-based coated steel sheet obtained by forming a hot-dip coating layer comprised of 1 to 8.8 wt% of Zn and the balance of Sn in an amount of 91.2 to 99.0 wt% and unavoidable impurities and/or ancillary ingredients on the surface of steel sheet, the coating surface having Sn dendrite crystals and Sn dendrite arm spacings buried by an Sn-Zn two-way eutectic structure.

2. Hot-dip Sn-Zn coated steel sheet superior in corrosion resistance and workability as set forth in claim 1, characterized in that an area ratio of Sn dendrites in the coating surface is 5 to 90%.

3. Hot-dip Sn-Zn coated steel sheet superior in corrosion resistance and workability as set forth in claim 1 or 2, characterized in that the arm spacing of the Sn dendrites is not more than 0.1 mm.

4. Hot-dip Sn-Zn coated steel sheet superior in corrosion resistance and workability as set forth in any one of claims 1 to 3, characterized by having a discontinuous FeSn_2 alloy phase between the surface of the steel sheet and the hot-dip Sn-Zn-alloy coating, by having an area ratio of the FeSn_2 alloy phase of at least 1% and less than 100%, and having an Sn-Zn-alloy coating layer on top of that.

5. Hot-dip Sn-Zn coated steel sheet superior in corrosion resistance and workability as set forth in claim 4, characterized in that a surface roughness of said discontinuous FeSn_2 alloy phase is 0.1 to 2.5 μm in terms of RMS.